



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 17-0433

Project: 17-0433, Lake James - Reported by Sue Dye

December 4, 2017

4SESD-EAB

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 17-0433, Lake James
Surface Water Protection

FROM: Sue Dye
EAB Analyst

THRU: Stacey Box, Chief
EAB Water Quality Section

TO: Sue Dye

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the Ecological Assessment Branch's (EAB) Laboratory Operations and Quality Assurance Manual (EAB LOQAM). Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Data has been verified based on the EAB LOQAM specifications and may have been qualified if the applicable quality control criteria were not met. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are representative only of the samples as received by the laboratory.

Analyses Included in this report:

Method Used:

Algal Assay (ALG)

AGPT- Maximum Standing Crop (Dry Weight)

SM 8111 (Water)



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Sample Disposal Policy

Due to limited space for long term sample storage, ASB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at R4SampleCustody@epa.gov.



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SAMPLES INCLUDED IN THIS REPORT

Project: 17-0433, Lake James

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
1	E173406-01	Surface Water	8/23/17 10:30	8/25/17 10:10
2	E173406-02	Surface Water	8/23/17 11:00	8/25/17 10:10
3	E173406-03	Surface Water	8/23/17 10:00	8/25/17 10:10
4	E173406-04	Surface Water	8/23/17 12:00	8/25/17 10:10
5	E173406-05	Surface Water	8/23/17 11:30	8/25/17 10:10
6	E173406-06	Surface Water	8/23/17 11:45	8/25/17 10:10



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DATA QUALIFIER DEFINITIONS

None

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

ACCREDITATIONS:

ISO ASB is accredited by ISO/IEC 17025, including an amplification for forensic accreditation through ANSI-ASQ National Accreditation Board.

Refer to the certificate and scope of accreditation AT-1644 at:
<http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd>

NR The EPA Region 4 Laboratory has not requested accreditation for this test.



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 1

Lab ID: E173406-01

Station ID: CTB013B

Matrix: Surface Water

Date Collected: 8/23/17 10:30

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	5.6		mg/L	0.10	9/15/17	9/29/17	SM 8111
R4-1087	Limiting Nutrient: Nitrogen					9/15/17	9/29/17	SM 8111



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 2

Lab ID: E173406-02

Station ID: CTB013C

Matrix: Surface Water

Date Collected: 8/23/17 11:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	0.33		mg/L	0.10	9/15/17	9/29/17	SM 8111
R4-1087	Limiting Nutrient: Phosphorus					9/15/17	9/29/17	SM 8111



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 3

Lab ID: E173406-03

Station ID: CTB015A

Matrix: Surface Water

Date Collected: 8/23/17 10:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	0.28		mg/L	0.10	9/15/17	9/29/17	SM 8111
R4-1087	Limiting Nutrient: Phosphorus					9/15/17	9/29/17	SM 8111



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 4

Lab ID: E173406-04

Station ID: CTB015C

Matrix: Surface Water

Date Collected: 8/23/17 12:00

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	0.27		mg/L	0.10	9/15/17	9/29/17	SM 8111
R4-1087	Limiting Nutrient: Phosphorus					9/15/17	9/29/17	SM 8111



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 5

Lab ID: E173406-05

Station ID: CTB023A1

Matrix: Surface Water

Date Collected: 8/23/17 11:30

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	0.82		mg/L	0.10	9/29/17	10/13/17	SM 8111
R4-1087	Limiting Nutrient: Phosphorus					9/29/17	10/13/17	SM 8111



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Algal Assay

Project: 17-0433, Lake James

Sample ID: 6

Lab ID: E173406-06

Station ID: CTB023B

Matrix: Surface Water

Date Collected: 8/23/17 11:45

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
R4-1086	AGPT- Maximum Standing Crop (Dry Weight)	0.52		mg/L	0.10	9/29/17	10/13/17	SM 8111
R4-1087	Limiting Nutrient: Phosphorus					9/29/17	10/13/17	SM 8111



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Algal Assay (ALG) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1709036 - A 8111 AGPT

Duplicate (1709036-DUP1)

Source: E173406-04

Prepared: 09/15/17 Analyzed: 09/29/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	0.2600	0.10	mg/L		0.2700			3.77	20	
Limiting Nutrient	Not Determined		"		Phosphorus				200	

Reference (1709036-SRM1)

Prepared: 09/15/17 Analyzed: 09/29/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	10.28		mg/L	10.200		101	90-110			
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Reference (1709036-SRM2)

Prepared: 09/15/17 Analyzed: 09/29/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	930700		mg/L	984000		94.6	90-110			
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Batch 1709077 - A 8111 AGPT

Duplicate (1709077-DUP1)

Source: E173504-02

Prepared: 09/29/17 Analyzed: 10/13/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	0.3800	0.10	mg/L		0.3900			2.60	20	
Limiting Nutrient	Not Determined		"		0.000				200	

Reference (1709077-SRM1)

Prepared: 09/29/17 Analyzed: 10/13/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	10.28		mg/L	10.200		101	90-110			
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Reference (1709077-SRM2)

Prepared: 09/29/17 Analyzed: 10/13/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	1003000		mg/L	984000		102	90-110			
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Batch 1711013 - A 8111 AGPT

Duplicate (1711013-DUP1)

Source: E173406-06RE1

Prepared: 11/08/17 Analyzed: 11/22/17

SM 8111

AGPT- Maximum Standing Crop (Dry Weight)	OP tolerance limits.	0.10	mg/L		0.1300			26.7	20	
Limiting Nutrient	Not Determined		"		0.000				200	



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Algal Assay (ALG) - Quality Control

US-EPA, Region 4, SESD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1711013 - A 8111 AGPT

Reference (1711013-SRM1)

Prepared: 11/08/17 Analyzed: 11/22/17

SM 8111

AGPT- Maximum Standing Crop (Dry
Weight)

10.28

mg/L

10.200

101

90-110

Reference (1711013-SRM2)

Prepared: 11/08/17 Analyzed: 11/22/17

SM 8111

AGPT- Maximum Standing Crop (Dry
Weight)

928100

mg/L

984000

94.3

90-110



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Notes and Definitions for QC Samples